TECHNICAL APPENDIX 3:

COMPARISON OF RMIS WITH

OTHER RECREATION DATA SOURCES

1. Summary

Based on a review of RMIS and other recreation use data, it appears that there is no existing source of recreation visitor day information for the West that represents an improvement over RMIS. Possible data anomalies are identified, but differences in data collection techniques, time periods, land locations, and types of activities make it difficult to definitively identify discrepancies between RMIS and other recreation data sources.

2. Evaluating RMIS Data

Several measurement problems occurred in comparing RMIS data with other sources of recreation use data. Two problems that occur repeatedly were locational specificity and measurement definition.

In terms of location, an abundance of user data exists for the Forest Service and Park Service. This has very little relevance to RMIS estimates. National Parks are generally scenic and offer designated trails and visitor centers while the BLM lands are used not only for recreation but also for extraction of resources such as minerals, oil, gas, timber and livestock forage. National Forests also plan for multiple use, but more recreational trails and campgrounds exist in National Forests, and the interface between recreation and grazing or timber harvesting is likely to be less frequent. Other estimation problems can occur when measuring the number of recreational users across all types of land management agencies.

A second problem is measurement. Visitor days and participation are reported differently across agencies, as summarized in Table 3.1. Each agency may measure a visitor day in its own way, for example 12 hours versus any part of a day. Each agency categorizes and defines activities differently, on the whole, from every other agency. Activities such as trail or interpretive exhibit are somewhat vague, therefore it is important to understand the conditions of each activity.

RMIS reports record visitor hours as one day equals twelve hours. The NPS and USFS also report a visitor day as twelve hours. The NPS defines a visitor day as entry into a National Park for the purpose of recreation. The USFS defines their visitor day as a Recreation Visitor Day (RVD) where one person recreates for twelve hours or twelve people recreate for an hour. The USFWS defines a visitor day much differently, as any given part of a day spent in a given

activity. This means that if a person only spends two hours hunting, they are counted as having spent a visitor day (USFWS 1996).

Table 3.1 Agency Definitions

Agency	Participants	Visitor Days
RMIS	Number of people recreating on BLM land. Includes the occurrence of the same person more than once.	Equals 12 hours of recreation
NPS	The entry of any person, except NPS personnel, onto lands or waters administered by the NPS. Visits may occur as recreation visits or non-recreation visits. Same day reentries, negligible transits, and entries to detached portions of the same park on the same day are considered as a single visit. (Recreation visits are reported only)	Equals 12 hours of recreation
USFS	N/A	Recreation visitor day (RVD) is the recreational use of national forest land or water than aggregates 12 visitor hours. This means 1 person for 12 hours or 12 persons for 1 hour or any equivalent combination of individual or group use either continuous or intermittent is counted.
USFWS	Individuals who engaged in fishing, hunting or a wildlife-watching activities.	Any part of a day spent in a given activity.

Comparing RMIS to Other Public Land Management Agencies

Total recreation data were gathered for each state according to participation and visitor days for each agency. Participation in recreation was greatest on USFS lands as seen on Table 3.2. The numbers were much greater than those from both the BLM and NPS lands. Total participation on BLM and NPS lands are almost equal, but variation occurs between states. Participation on NPS lands in Idaho is very low when compared to RMIS data because Idaho has little Park Service land (see Table 1.1 in Appendix 1).

Pairwise Comparisons

Differences in land types, locations, and recreation opportunities vary greatly between different agency lands, making direct comparison difficult. A pairwise statistical comparison was developed to see if recreation participation across agencies differed significantly. The comparison was conducted between agency lands on a state-by-state basis. First, information in Table 3.2 was used to calculate the proportion of participation and visitor days by state across agencies. Each agency's recreational use in a state was divided by total agency recreation for all Western states. For instance, BLM participation in Alaska (3,290,050) was divided by total BLM participation (105,770,557) to obtain the proportion of BLM recreators in Alaska (.0311, see Table 3.3). Proportions of participation and visitor days for all states by agency are reported in Tables 3.3 and 3.4.

Next, pairwise comparisons were made between BLM figures and NPS and USFS figures for recreation participation and visitor days. Figure 3.1 shows the equations used to calculate these comparisons. The z-scores needed to be greater than 2.58 for data to be significantly different. Significant differences were found between BLM and NPS data, and between BLM and USFS data (see Table 3.2). The data are therefore of limited comparability.

Table 3.2 Total Recreation by State

State	BLMBLM ParticipationVisitor Days 19991999	NPS Participation 1998	NPS Visitor Days 1998	USFS Participation 1996	USFS Visitor Days 1996
Alaska	3,290,050*1,965,795*	1,991,864	1,449,916	17,181,000	6,962,000
Arizona	12,006,190*18,633,790*	11,566,630	8,408,623	72,044,000	35,000,000
California	11,773,082*8,098,006	34,615,162	15,686,798	195,880,000	71,165,000
Colorado	8,435,601*3,661,621*	5,820,870	3,071,353	60,488,100	30,970,700
Idaho	9,336,435*3,834,359*	503,418	96,477	23,201,000	15,365,000
Montana	4,975,626*3,376,124	4,030,652	4,236,674	31,836,000	13,495,000
Nevada	12,759,088*7,217,414*+	6,671,404	4,590,554	21,423,000	3,857,000
New Mexico	5,864,397*2,576,732*	2,076,080	516,688	12,644,000	9,326,000
Oregon	19,595,793*7,730,838*	892,551	302,656	97,465,700	37,029,300
Utah	12,353,974*6,326,204	8,902,716	7,080,556	44,105,000	19,378,000
Washington	n/a n/a	7,781,362	3,754,788	97,456,000	24,796,900
Wyoming	5,380,315*2,067,596	6,284,687	4,750,899	14,266,000	9,114,000
Total	105,770,55765,488,479	91,137,396	53,945,982	687,989,800	276,458,900

Source: U.S. Forest Service 1998

* Indicates possible anomalies between RMIS and NPS data (z-scores were greater than 2.58)

+ Indicates possible anomalies between RMIS and USFS data (z-scores were greater than 2.58)

Table 3.3 Proportion of Recreators in Each State for Pairwise Comparisons of Total Recreation Participation*

State	BLM (1999)	NPS (1998)	USFS (1996)
Alaska	0.0311	0.0219	0.0250
Arizona	0.1135	0.1269	0.1047
California	0.1113	0.3798	0.2847
Colorado	0.0798	0.0639	0.0879
Idaho	0.0883	0.0055	0.0337
Montana	0.0470	0.0442	0.0463
Nevada	0.1206	0.0732	0.0311
New Mexico	0.0554	0.0228	0.0184
Oregon	0.1853	0.0098	0.1417
Utah	0.1168	0.0977	0.0641
Washington	n/a	n/a	n/a
Wyoming	0.0509	0.0690	0.0207

* Data is significantly different for all states

Table 3.4 Proportion of Recreators in Each State for Pairwise Comparisons of Total Recreation Visitor Days*

State	BLM (1999)	NPS (1998)	USFS (1996)
Alaska	0.0300	0.0269	0.0252
Arizona	0.2845	0.1559	0.1266
California	0.1237	0.2908	0.2574
Colorado	0.0559	0.0569	0.1120
Idaho	0.0586	0.0018	0.0556
Montana	0.0516	0.0785	0.0488
Nevada	0.1102	0.0851	0.0140
New Mexico	0.0393	0.0096	0.0337
Oregon	0.1180	0.0056	0.1339
Utah	0.0966	0.1313	0.0701
Washington	n/a	n/a	n/a
Wyoming	0.0316	0.0881	0.0330

* Data is significantly different for all states

Figure 3.1 Pairwise Comparison Equations

H_0 : BLM data is equal to agency data
H_A: BLM data is not equal to agency data

$$p = \frac{x_1 + x_2}{n_1 + n_2}$$

p = The weighted mean of the two sample proportions
x_1 = The number of desired characteristic for the BLM for a given state
x_2 = The number of desired characteristic for other agencies for a given state
n_1 = Total for other BLM
n_2 = Total for other agency
p_1 = x_1/n_1
p_2 = x_2/n_2

The Test Statistic

$$z = \frac{p_1 - p_2}{\sqrt{\frac{p(1-p)}{n_1} + \frac{p(1-p)}{n_2}}}$$ (The standard error of the pooled percentage)

Reject H_o if z test $\geq$ z score at a given alpha

Significance Level = 0.01 = alpha for finding appropriate z score

Calculation Example:
Alaska pairwise comparison for total recreation participation BLM versus NPS (table 10)

$$z = \frac{0.0311 - 0.0219}{\sqrt{\frac{0.52(1-.052)}{105,770,557} + \frac{0.52(1-0.52)}{91,137,396}}}$$

z = 128.8441

127.8441 > 2.58 (2.58 is the z score from table at $\alpha = 0.01$)

H_O is rejected – Total recreation participation for BLM data is significantly different than USFS data.

Pairwise comparisons were also conducted for visitor days between BLM and NPS, and between BLM and USFS to see if the data were significantly different (see Table 3.4). The z-scores again needed to be greater than 2.58 to be significantly different. Visitor days for NPS, when compared to BLM visitor days, are significantly different (see Table 3.2).

Comparing RMIS Activities to USFS Activities

RMIS data for 1999 were compared to data from the "Report of the Forest Service" for fiscal years 1992 and 1996. The 1992 report poses a problem with a time difference while the 1996 study calculates visitor days in categories instead of by activity. The 1992 report includes the activities of camping and driving for pleasure. The 1996 report includes categories totaled by the USFS that include:

- hiking, horseback riding, and water travel
- camping, picnicking, and swimming
- mechanized travel and viewing scenery
- winter sports

It is assumed that BLM numbers should be significantly lower than those reported by the USFS. This assumption applies to all activities and is stated at the beginning of each activity reported below. Pairwise comparisons, similar to those made between BLM, NPS, and USFS for all recreation (see "*Pairwise Comparisons"* section above), were developed to compare BLM and USFS visitor days for the activities of "camping" and "driving for pleasure." These were the only USFS activities with enough data to make pairwise statistical comparisons. All other activities were compared for possible differences, but statistical tests of significance were not possible. There were no comparable NPS data for activities, so pairwise comparisons between BLM and NPS recreation participation by activity was not made.

Camping. *Assumption: More camping is likely to occur on USFS lands than on BLM lands in each state.*

Camping visitor days were compared between RMIS and USFS data from 1992 (see Table 3.5). RMIS figures were divided by 12 hours (RMIS/12) to convert number of hours spent camping to number of visitor days. USFS had greater visitor days in all but two western states. Arizona and Nevada were reported to have a greater number of camping visitor days on BLM land than USFS land. This comparison is questionable due to the time gap between data collection for each data source and the large amount of BLM land in Nevada and Arizona when compared to land areas for the USFS. Pairwise comparisons were conducted for camping to see if visitor days on BLM land were significantly different than those on USFS lands (see Table 3.6). Camping visitor days on BLM land, when compared to USFS land, were found to be significantly different in all states.

Table 3.5 Camping Visitor Days

	RMIS 1999RMIS/12	USFS 1992
Alaska	2,995,554249,629	320,900
Arizona	180,176,91215,014,743*	6,626,400
California	45,236,8043,769,734	18,261,900
Colorado	13,726,4341,143,869	6,179,600
Idaho	3,891,875324,323	3,867,000
Montana	18,999,0031,583,250	2,227,000
Nevada	20,510,7251,709,227*	987,700
New Mexico	5,948,257495,688	2,748,400
Oregon	28,282,7942,356,900	6,393,000
Utah	24,940,8092,078,401	5,130,600
Washington	n/an/a	n/a
Wyoming	5,521,933460,161	1,808,300
Total	350,231,10029,185,925	60,839,300

Source: U.S. Forest Service 1998

* Indicates possible anomalies between RMIS and USFS data

Table 3.6 Proportion of Recreators in Each State for Pairwise Comparison for Camping Visitor Days*

State	BLM	USFS
Alaska	0.0086	0.0053
Arizona	0.5145	0.1089
California	0.1292	0.3002
Colorado	0.0392	0.1016
Idaho	0.0111	0.0636
Montana	0.0542	0.0366
Nevada	0.0586	0.0162
New Mexico	0.0170	0.0452
Oregon	0.0808	0.1051
Utah	0.0712	0.0843
Washington	n/a	n/a
Wyoming	0.0158	0.0297

*** BLM data were significantly different from USFS data for all states**

Driving for Pleasure. *Assumption: More driving for pleasure is likely to occur on USFS land than on BLM land.*

Driving for pleasure visitor days were compared between RMIS and 1992 USFS data (see Table 3.7). Again, RMIS figures were divided by 12 hours (RMIS/12) to convert number of hours spent driving to number of visitor days The USFS had a greater number of visitor days than BLM in all BLM western states. Pairwise comparisons were conducted for pleasure driving to see if visitor days on BLM lands were significantly different than those on USFS lands. Number of visitor days reported for pleasure driving on BLM lands was statistically different than the number reported on USFS lands. This supports the assumption that more people participate in driving for pleasure on USFS land than on BLM land. This is the last pairwise comparison made between individual BLM and USFS activities.

Table 3.7 Driving for Pleasure Visitor Days		
	RMIS 1999RMIS/12	**USFS 1992**
Alaska	2,009,700167,475	3,652,200
Arizona	744,53162,044	11,413,600
California	7,595,600632,967	24,875,200
Colorado	4,071,991339,333	8,598,100
Idaho	2,220,812185,068	3,597,100
Montana	699,03658,253	3,465,900
Nevada	4,440,311370,026	990,900
New Mexico	2,167,873180,656	2,017,400
Oregon	9,209,454767,454	7,524,300
Utah	5,371,655447,638	7,190,000
Washington	n/an/a	n/a
Wyoming	2,854,466237,872	2,166,000
Total	41,385,4303,448,786	82,472,900

Source: U.S. Forest Service 1998

Table 3.8 Proportion of Recreators in Each State for Pairwise Comparisons for Driving for Pleasure Visitor Days*		
State	**BLM**	**USFS**
Alaska	0.0486	0.0443
Arizona	0.0180	0.1384
California	0.1835	0.3016
Colorado	0.0984	0.1043
Idaho	0.0537	0.0436
Montana	0.0169	0.0420
Nevada	0.1073	0.0120
New Mexico	**0.0524**	**0.0245**
Oregon	0.2225	0.0912
Utah	0.1298	0.0872
Washington	n/a	n/a
Wyoming	0.0690	0.0263

*** BLM data were significantly different from USFS data for all states**

Hiking, Horseback Riding and Water Travel. *Assumption: More hiking, horseback riding, and water travel is likely to occur on USFS land than on BLM land.*

The activities of hiking, horseback riding and water travel were combined in "The Report of the Forest Service Fiscal Year 1996." RMIS data were combined for hiking/walking/running, horseback riding, and boating for a loosely comparable measure. RMIS reported fewer visitor days for these activities than were reported by USFS. This is consistent with the assumption that more people participate in these activities on USFS lands than on BLM lands.

Camping, Picnicking and Swimming. *Assumption: More camping, picnicking, and swimming is likely to occur on USFS land than on BLM land.*

The 1996 USFS data report visitor days for camping, picnicking and swimming together. Arizona and Nevada report greater visitor days on BLM land than on USFS land. The is not consistent with the assumption that more people recreate on USFS lands than BLM lands but may be valid due to the larger amount of acreage BLM owns in Arizona and Nevada compared to USFS.

Mechanized Travel and Viewing Scenery. *Assumption: More mechanized travel and viewing scenery is likely to occur on USFS land than on BLM land.*

Mechanized travel and viewing scenery were grouped together in the USFS "Report of the Forest Service Fiscal Year 1996." RMIS visitor days for ATV riding, driving for pleasure, four wheel driving, and viewing were combined to provide a comparable measure. Nevada was the only state of the western BLM states that reported a greater number of visitor days than were reported by USFS. This is not consistent with the assumption that more people participate in

these activities on USFS lands than on BLM lands, but it may be accurate due to the large amount of BLM land, and the small amount of USFS land, in Nevada.

Winter Sports. *Assumption: More winter sports are likely to occur on USFS land than on BLM land.*

USFS visitor days for winter sports were compared with RMIS super category, "winter activities." All winter sports visitor days on USFS lands were found to be greater than visitor days for winter activities on BLM lands. This is consistent with the assumption that more people participate in winter sports on USFS lands than on BLM lands.

Comparing RMIS to U. S. Fish and Wildlife Service Data

The United States Fish and Wildlife Service (USFWS) study, "1996 Survey of Hunting, Fishing, and Wildlife-Associated Recreation" was helpful in comparing statistics to RMIS reports. Survey design included a screening interview and population interest question to identify likely sportsmen and wildlife watching participants. A detailed interview was then conducted by telephone or personal interview to collect detailed data. The 1996 sample size was 77,144, considerably smaller than similar past studies. Results were estimated by assigning weights to the screening samples and statistically measuring the standard errors. The USFWS recognizes non-sampling variability such as definitional difficulties, errors made in the processing of data, and the failure to represent all units within the sample (USFWS 1996).

Only four USFWS activities could be compared to RMIS activities: fishing, hunting big game, hunting small game, and bird hunting. The USFWS numbers reported are of users recreating in each state, including state residents and non-residents. It is assumed that BLM numbers should be significantly lower than those reported by the USFWS in each activity

because BLM lands are a subset of all public lands in each state. Each assumption is listed with each activity reported below.

Visitor hours for the BLM have been transformed in this section due to measurement differences. The USFWS reports a visitor day as any portion of a day spent on a particular activity. This could include two hours on an activity or ten hours. The BLM counts a visitor day as 12 hours, which makes comparisons difficult. RMIS data are therefore reported by visitor hours, then divided into full visitor days (12 hours) and half visitor days (6 hours). It is again assumed that BLM numbers for visitor days are significantly less than those of USFWS.

Percentages were calculated for RMIS data based on USFWS data for easier comparison. RMIS figures were divided by USFWS statewide total recreation amounts. If RMIS data for activities were greater than USFWS survey of statewide totals, than RMIS calculations were considered to be inaccurate.

Fishing. *Assumption: RMIS figures are likely to be lower than USFWS figures for fishing.*

Fishing, according to USFWS, is the sport of catching or attempting to catch fish with a hook, line, net, bow and arrow, spear, fishing equipment. It can also involve catching or gathering shellfish (clams, crabs, etc). Data from USFWS and RMIS report participation numbers and visitor days. The majority of states reported fewer participants on BLM lands than statewide totals reported in the USFWS study. Potential problems occurred in Arizona, Idaho, Montana, Nevada and Oregon. For instance, Montana and Oregon reported that fishing participation on BLM lands was double the statewide USFWS total. This statistic is inconsistent with the assumption that more people are likely to fish on all public lands than fish on BLM lands (as a subset of all public lands), and it may or may not indicate a RMIS anomaly. This inconsistency could be due to the fact that BLM counts each time a person recreates on BLM land, while USFWS asks whether or not a person fished during the year in the state.

Visitor fishing days for BLM participants were compared with USFWS visitor fishing days, by full- (12 hours) and half-days (6 hours). Visitor days (full and half day) on BLM lands were significantly fewer than statewide totals reported by USFWS. This is consistent with the assumption that more people fish on all public lands than on BLM lands. A percentage was then calculated to aid in the comparison. Minimal visitor hours were spent fishing on BLM land in states such as California and Alaska, while Montana had the highest number of fishing visitor days on BLM land.

Big Game Hunting. *Assumption: RMIS figures are likely to be lower than USFWS figures for big game hunting.*

Big game hunting is considered the hunting or shooting of big game wildlife with firearms or archery equipment. Big game includes antelope, bear, deer, elk, moose, wild turkey, and similar large animals, which are hunted.

Participation for big game hunting on BLM lands is very inconsistent with USFWS figures. Six of the Western states, Alaska, Montana, New Mexico, Nevada, Oregon and Wyoming, reported higher numbers of big game hunting on BLM lands than the USFWS reported on their statewide survey. Each of these states reported BLM participation numbers double or more above those reported by the USFWS. The reported statistics are potential anomalies that disagree with the assumption for big game hunting.

Visitor days for big game hunting were more comparable and fit better than participation. Nevada was the only state in which big game hunting visitor days surpassed visitor days in the USFWS study.

Small Game Hunting. *Assumption: RMIS figures are likely to be lower than USFWS figures for small game hunting.*

Hunting small game is the hunting and/or shooting of small game wildlife with firearms or archery equipment. Small game includes grouse, partridge, pheasants, quail, rabbits, squirrel, and similar small animals and birds for which many states have small game seasons and bag limits (USFWS 1996).

Small game hunting participation numbers are somewhat more consistent between BLM and USFWS data than were those reported for big game. Only four states reported greater

participation on BLM lands than on USFWS lands. These included New Mexico, Nevada, Oregon and Wyoming. The first three of these reported BLM participation rates four to seven times greater than the reported USFWS state totals. Some anomalies may exist with these states.

Visitor day data for small game hunting appear to be more reliable. RMIS totals are less than USFWS data in all twelve western states. Alaska has the least, and Oregon has the greatest, amount of time spent on small game hunting.

Waterfowl and Migratory Bird Hunting. *Assumption: RMIS figures are likely to be lower than USFWS figures for waterfowl and migratory bird hunting.*

A loose comparison was conducted between the RMIS category of waterfowl hunting and the USFWS study category of migratory bird hunting. Migratory birds are birds that regularly migrate form one region or climate to another (USFWS). Data for participation and visitor days have been collected for these categories

Nevada, Oregon, and Wyoming report RMIS averages for participation in bird hunting greater than those reported by USFWS. Nevada has the greatest degree of difference from the USFWS. Visitor days for bird hunting were more consistent than participation. The BLM reports fewer visitor days on BLM land than those reported by USFWS survey in each state.

Additional Comparisons

State Game and Fish Offices. Comparisons of participation data from RMIS and USFWS for fishing, big game hunting and small game hunting illustrated possible anomalies between the states of Nevada, New Mexico, Oregon, and Wyoming. Each of these states had RMIS numbers close to or above those reported by the USFWS statewide total, therefore further

research was conducted. State game and fish offices were contacted for the four states. Data on the number of licenses sold or amount of hunters were gathered for the year 1999.

Comparisons were first made between RMIS data and fishing licenses. RMIS reported fishing participation two to three times greater in Nevada and Oregon than the number of licenses sold. This suggests there may be anomalies between RMIS data and the number of licenses sold by game and fish departments in those states, or it may indicate that many people fish without a license.

The activity of hunting is reported very differently between state agencies. New Mexico and Oregon report number of hunters, not number of licenses sold. To compare figures in these states to RMIS data, small game and big game were totaled. All four states (Nevada, New Mexico, Oregon, and Wyoming) report RMIS numbers well above the number of hunters or licenses sold. The state of Nevada in particular has extremely high RMIS totals. This indicates possible anomalies between RMIS data and the number of licenses sold by fish and game departments in these states.

There may be some comparison problems between RMIS and state game and fish information. BLM reports the state of Washington together with Oregon. Oregon totals may therefore be higher than state agency totals. Some hunters may purchase more than one license. It may therefore be difficult to equate the number of licenses to the number of hunters. Most sportsmen participate more than one day throughout the year therefore RMIS may count the same person a number of times.

3. Overview and Conclusions

Comparing recreation participation between major public land management agencies has provided an overall perspective on the amount of recreation occurring on each agency's land by state. The greatest amount of recreation, measured in both participation and visitor days, occurs on USFS lands. This supports the assumption, stated at the outset, that recreation use on BLM lands should be less than other agencies. Participation rates on BLM and NPS lands are very similar. This was an unexpected result. It was assumed that BLM participation would not exceed that of the NPS unless measurement methodology was very different.

Measurement of participants should be more accurate on NPS than on BLM land. Park access is more controlled than access to BLM land, therefore counts of NPS participation should be more accurate. There may be more BLM land in general, however, and different kinds of visitors may visit BLM lands compared with NPS lands. Visitors must pay to enter national parks and activities within the parks are limited. Those who do not wish to pay, and who want to participate in different activities might choose to recreate on BLM lands.

Measurement differences between BLM and USFS data made comparisons difficult. Visitor days were defined differently for each agency in such a way as to make comparisons between visitor days *and* participation problematic. Comparisons were made, however, and possible anomalies were identified in Arizona and Nevada for some activities. BLM participation was generally greater in these states than USFS participation.

These anomalies may be valid due to the greater amount of BLM land, and smaller amount of Forest Service land, in Arizona and Nevada. Some activities occurred less often on BLM lands in these states, however, and with good reason. Certain activities such as winter

sports may be less available in these states in general, and less available on largely desert BLM landscapes in particular, than on more forested, upland USFS land.

Even more inconsistency was found in comparing BLM participation with USFWS participation. Overall, the largest inconsistencies between RMIS and USFWS figures were number of participants in activities, while visitor hours remained fairly consistent throughout all comparisons. Nearly all states, but especially Arizona Nevada, New Mexico, Oregon, and Wyoming, reported greater participation on BLM lands for most activities compared here than participation statewide on all public and private lands, as reported in the USFWS. This may be due to the different types of measurement techniques according to the BLM and the USFWS. RMIS participation may count the same person a number of times within a year while the USFWS survey counts an interviewee once during the year for each activity. This could account for many of the anomalies found.

Data collected from state game and fish services for licensing and hunter information indicated another possible anomaly the BLM may need to address. RMIS data for fishing exceeded game and fish licenses for Nevada and Oregon. RMIS data for hunting both big and small game exceeded game and fish licenses or hunters in Nevada, New Mexico, Oregon and Wyoming.